AMENDMENTS TO THE CLAIMS

Please amend the Claim Form and Claim as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1-18 (canceled)

19 (currently amended): ~~The~~A method ~~according to Claim 18~~for forming a silicon carbide film on a semiconductor substrate by plasma CVD, comprising the steps of:

(a) introducing a raw material gas containing silicon, carbon, and hydrogen and an inert gas at a predetermined mixture ratio of the raw material gas to the inert gas into a reaction chamber;

(b) applying radio-frequency power to a reaction zone inside the reaction chamber at the mixture ratio, thereby forming on a semiconductor substrate a curable silicon carbide film having a dielectric constant of about 4.0 or higher; and

(c) continuously applying radio-frequency power to the reaction zone at a mixture ratio which is reduced from that in step (b), thereby curing the silicon carbide film to give a dielectric constant lower than that of the curable silicon carbide film,

wherein in step (a), in addition to the raw material gas and the inert gas, a hydrogen source gas is introduced into the reaction chamber, and wherein in step (c), the hydrogen source gas flow is changed by synchronizing the hydrogen source gas flow with the raw material gas flow.

20 (currently amended): ~~The~~A method ~~according to Claim 18~~for forming a silicon carbide film on a semiconductor substrate by plasma CVD, comprising the steps of:

(a) introducing a raw material gas containing silicon, carbon, and hydrogen and an inert gas at a predetermined mixture ratio of the raw material gas to the inert gas into a reaction chamber;

(b) applying radio-frequency power to a reaction zone inside the reaction chamber at the mixture ratio, thereby forming on a semiconductor substrate a curable silicon carbide film having a dielectric constant of about 4.0 or higher; and

(c) continuously applying radio-frequency power to the reaction zone at a mixture ratio which is reduced from that in step (b), thereby curing the silicon carbide film to give a dielectric constant lower than that of the curable silicon carbide film,

wherein in step (a), in addition to the raw material gas and the inert gas, a hydrogen source gas is introduced into the reaction chamber, and wherein in step (c), the hydrogen source gas flow is reduced from that in step (b).

21 (original): The method according to Claim 20, wherein the hydrogen source gas flow is reduced to about zero at the end of step (c).

22-26 (canceled)

27 (currently amended): ~~The~~A method ~~according to Claim 26~~for forming a silicon carbide film on a semiconductor substrate by plasma CVD, comprising the steps of:

forming a curable silicon carbide film having a dielectric constant of more than about 4.0 on a semiconductor substrate placed in a reaction chamber, by introducing a raw material gas containing silicon, carbon, and hydrogen at a given flow rate, and an inert gas at a given flow rate into the reaction chamber, and applying radio-frequency power to a reaction zone inside the reaction chamber; and

curing the silicon carbide film to give a dielectric constant of no more than about 4.0 by discontinuously or continuously reducing and then maintaining a mixture ratio of the raw material gas to the inert gas while continuously applying radio-frequency power to the reaction zone,

wherein in step (a), in addition to the raw material gas and the inert gas, a hydrogen source gas is introduced into the reaction chamber, and wherein in step (c), the hydrogen source gas flow is changed by synchronizing the hydrogen source gas flow with the raw material gas flow.

28 (currently amended): ~~The~~A method ~~according to Claim 26~~for forming a silicon carbide film on a semiconductor substrate by plasma CVD, comprising the steps of:

forming a curable silicon carbide film having a dielectric constant of more than about 4.0 on a semiconductor substrate placed in a reaction chamber, by introducing a raw material gas containing silicon, carbon, and hydrogen at a given flow rate, and an inert gas at a given flow rate into the reaction chamber, and applying radio-frequency power to a reaction zone inside the reaction chamber; and

curing the silicon carbide film to give a dielectric constant of no more than about 4.0 by discontinuously or continuously reducing and then maintaining a mixture ratio of

the raw material gas to the inert gas while continuously applying radio-frequency power to the reaction zone,

wherein in step (a), in addition to the raw material gas and the inert gas, a hydrogen source gas is introduced into the reaction chamber, and wherein in step (c), the hydrogen source gas flow is reduced from that in step (b).

29 (original): The method according to Claim 28, wherein the hydrogen source gas flow is reduced to zero at the end of step (c).

30 (canceled)

31 (currently amended): The method according to Claim ~~30~~20, wherein the radio-frequency power is comprised of low frequency power and high-frequency power.

32 (original): The method according to Claim 31, wherein the low frequency power is less than about 1/2 of the total power.

33 (currently amended): The method according to Claim ~~30~~20, wherein the hydrogen source gas flow is about 10 sccm to about 5,000 sccm in step (~~B~~b).

34 (currently amended): The method according to Claim ~~30~~20, wherein the hydrogen source gas flow is about 0 sccm to about 1,000 sccm in step (~~C~~c).

35 (currently amended): The method according to Claim ~~30~~20, wherein step (~~C~~c) is conducted for about 5 seconds to about 10 seconds.

36-37 (canceled)

38 (currently amended): A method for manufacturing on a semiconductor substrate an interlayer structure containing a film in contact with a copper layer, comprising the steps of:

(i) forming multiple layers on a semiconductor substrate;

(ii) forming a hole for an interlayer connection of the multiple layers by etching;

(iii) depositing copper in the hole;

(iv) removing an excess of the copper from a top of the multiple layers;

(v) depositing a silicon carbide film on the top of the multiple layers according to Claim ~~30~~20, whereby the copper is covered by the silicon carbide film.

39 (original): The method according to Claim 38, wherein in step (i), the multiple layers comprise a lower etch stop layer, a lower low dielectric layer, an intermediate etch stop layer, an upper low dielectric layer, and an upper etch stop layer laminated in sequence on the substrate,

and in step (ii), the hole is produced by forming a resist on top of the upper etch stop layer and forming a via hole and trench by etching the multiple layers using the resist, and in step (iv), the resist and the upper etch stop layer are removed when removing the excess of the copper.

40 (original): The method according to Claim 39, wherein the lower etch stop layer, the intermediate etch stop layer, and the upper etch stop layer are formed according to Claim 30.

41 (original): The method according to Claim 39, wherein steps (i) through (iv) are repeated at least once.